

Wen-Bin Cai

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97
papers

6,538
citations

44
h-index

80
g-index

104
ext. papers

7,661
ext. citations

9.1
avg, IF

6.13
L-index

#	Paper	IF	Citations
97	Reduced Mesoporous Co ₃ O ₄ Nanowires as Efficient Water Oxidation Electrocatalysts and Supercapacitor Electrodes. <i>Advanced Energy Materials</i> , 2014 , 4, 1400696	21.8	650
96	B-doped Pd catalyst: boosting room-temperature hydrogen production from formic acid-formate solutions. <i>Journal of the American Chemical Society</i> , 2014 , 136, 4861-4	16.4	289
95	Recent Advances on Electro-Oxidation of Ethanol on Pt- and Pd-Based Catalysts: From Reaction Mechanisms to Catalytic Materials. <i>Catalysts</i> , 2015 , 5, 1507-1534	4	274
94	Direct Observation on Reaction Intermediates and the Role of Bicarbonate Anions in CO Electrochemical Reduction Reaction on Cu Surfaces. <i>Journal of the American Chemical Society</i> , 2017 , 139, 15664-15667	16.4	252
93	Transition-Metal Single Atoms in a Graphene Shell as Active Centers for Highly Efficient Artificial Photosynthesis. <i>Chem</i> , 2017 , 3, 950-960	16.2	249
92	Electrocatalysis of formic acid on palladium and platinum surfaces: from fundamental mechanisms to fuel cell applications. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 20360-76	3.6	238
91	Boosting Formate Production in Electrocatalytic CO Reduction over Wide Potential Window on Pd Surfaces. <i>Journal of the American Chemical Society</i> , 2018 , 140, 2880-2889	16.4	210
90	From HCOOH to CO at Pd electrodes: a surface-enhanced infrared spectroscopy study. <i>Journal of the American Chemical Society</i> , 2011 , 133, 14876-9	16.4	172
89	Ultralow-platinum-loading high-performance nanoporous electrocatalysts with nanoengineered surface structures. <i>Advanced Materials</i> , 2010 , 22, 1845-8	24	171
88	Promoting Effect of Ni(OH) ₂ on Palladium Nanocrystals Leads to Greatly Improved Operation Durability for Electrocatalytic Ethanol Oxidation in Alkaline Solution. <i>Advanced Materials</i> , 2017 , 29, 1703057	24	169
87	Switchable CO ₂ electroreduction via engineering active phases of Pd nanoparticles. <i>Nano Research</i> , 2017 , 10, 2181-2191	10	146
86	Carbon-Supported PdPt Nanoalloy with Low Pt Content and Superior Catalysis for Formic Acid Electro-oxidation. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 6446-6451	3.8	140
85	Electrocatalysis of Ethanol on a Pd Electrode in Alkaline Media: An in Situ Attenuated Total Reflection Surface-Enhanced Infrared Absorption Spectroscopy Study. <i>ACS Catalysis</i> , 2014 , 4, 798-803	13.1	134
84	Boron-Doped Palladium Nanoparticles on Carbon Black as a Superior Catalyst for Formic Acid Electro-oxidation. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 8366-8372	3.8	131
83	Ubiquitous strategy for probing ATR surface-enhanced infrared absorption at platinum group metal-electrolyte interfaces. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 7900-6	3.4	124
82	Carbon supported PdNiB nanoalloy as an efficient catalyst for ethanol electro-oxidation in alkaline media. <i>Journal of Power Sources</i> , 2013 , 243, 369-373	8.9	123
81	CO ₂ Electrochemical Reduction As Probed through Infrared Spectroscopy. <i>ACS Energy Letters</i> , 2019 , 4, 682-689	20.1	121

80	Oriental Phase Transition in a Pyridine Adlayer on Gold(111) in Aqueous Solution Studied by in Situ Infrared Spectroscopy and Scanning Tunneling Microscopy. <i>Langmuir</i> , 1998 , 14, 6992-6998	4	113
79	Infrared Absorption Enhancement for CO Adsorbed on Au Films in Perchloric Acid Solutions and Effects of Surface Structure Studied by Cyclic Voltammetry, Scanning Tunneling Microscopy, and Surface-Enhanced IR Spectroscopy. <i>Journal of Physical Chemistry B</i> , 1999 , 103, 2460-2466	3.4	112
78	Li Electrochemical Tuning of Metal Oxide for Highly Selective CO Reduction. <i>ACS Nano</i> , 2017 , 11, 6451-6458	10.8	104
77	Pt ₁₀ P/C as an alternative PtRu/C catalyst for direct methanol fuel cells. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 18607-18613	13	97
76	Nanostructured palladium catalyst poisoning depressed by cobalt phosphide in the electro-oxidation of formic acid for fuel cells. <i>Nano Energy</i> , 2016 , 30, 355-361	17.1	86
75	Facile fabrication of ultrafine copper nanoparticles in organic solvent. <i>Nanoscale Research Letters</i> , 2009 , 4, 705-8	5	83
74	In Situ Iridium LIII-Edge X-ray Absorption and Surface Enhanced Raman Spectroscopy of Electrodeposited Iridium Oxide Films in Aqueous Electrolytes. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 3681-3686	3.4	83
73	Bio-Inspired Leaf-Mimicking Nanosheet/Nanotube Heterostructure as a Highly Efficient Oxygen Evolution Catalyst. <i>Advanced Science</i> , 2015 , 2, 1500003	13.6	78
72	Pd ₂ Pu/C electrocatalysts synthesized by one-pot polyol reduction toward formic acid oxidation: Structural characterization and electrocatalytic performance. <i>International Journal of Hydrogen Energy</i> , 2015 , 40, 1726-1734	6.7	75
71	Combined Surface-Enhanced Infrared Spectroscopy and First-Principles Study on Electro-Oxidation of Formic Acid at Sb-Modified Pt Electrodes. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 3102-3107	3.8	75
70	Palladium nanocrystals bound by {110} or {100} facets: from one pot synthesis to electrochemistry. <i>Chemical Communications</i> , 2012 , 48, 8362-4	5.8	73
69	Carbon supported Pd-Pt-Cu nanocatalysts for formic acid electrooxidation: Synthetic screening and componential functions. <i>Applied Catalysis B: Environmental</i> , 2014 , 147, 185-192	21.8	72
68	Electrocatalytic Activities of Oxygen Reduction Reaction on Pd/C and PdB/C Catalysts. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 3416-3423	3.8	69
67	Nature of Oxygen-Containing Groups on Carbon for High-Efficiency Electrocatalytic CO Reduction Reaction. <i>Journal of the American Chemical Society</i> , 2019 , 141, 20451-20459	16.4	68
66	Seeded-growth approach to fabrication of silver nanoparticle films on silicon for electrochemical ATR surface-enhanced IR absorption spectroscopy. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 25721-8	3.4	66
65	In situ spectroscopic investigation of CO accumulation and poisoning on Pd black surfaces in concentrated HCOOH. <i>Journal of Power Sources</i> , 2012 , 199, 165-169	8.9	65
64	Surfactant-Free Synthesis of Carbon-Supported Palladium Nanoparticles and Size-Dependent Hydrogen Production from Formic Acid-Formate Solution. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 24678-24687	9.5	63
63	Infrared spectroelectrochemical study of dissociation and oxidation of methanol at a palladium electrode in alkaline solution. <i>Langmuir</i> , 2013 , 29, 1709-16	4	61

62	Recent applications of in situ ATR-IR spectroscopy in interfacial electrochemistry. <i>Current Opinion in Electrochemistry</i> , 2017 , 1, 73-79	7.2	58
61	Small Addition of Boron in Palladium Catalyst, Big Improvement in Fuel Cells Performance: What May Interfacial Spectroelectrochemistry Tell?. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 7133-8	9.5	54
60	Tunable surface-enhanced infrared absorption on Au nanofilms on Si fabricated by self-assembly and growth of colloidal particles. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 15985-91	3.4	49
59	Effects of ligands on electroless Ni-B alloy plating from alkaline citrate-ammonia solution. <i>Surface and Coatings Technology</i> , 2003 , 168, 300-306	4.4	49
58	Controllable Increase of Boron Content in B-Pd Interstitial Nanoalloy To Boost the Oxygen Reduction Activity of Palladium. <i>Chemistry of Materials</i> , 2017 , 29, 10060-10067	9.6	48
57	Electrocatalysis of Ethylene Glycol Oxidation on Bare and Bi-Modified Pd Concave Nanocubes in Alkaline Solution: An Interfacial Infrared Spectroscopic Investigation. <i>ACS Catalysis</i> , 2017 , 7, 2033-2041	13.1	47
56	Pd-BiO Interface as Active Site for HCOOH Selective Dehydrogenation at Ambient Condition. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 2081-2088	3.8	45
55	Extending in situ attenuated-total-reflection surface-enhanced infrared absorption spectroscopy to Ni electrodes. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 4162-9	3.4	45
54	Mesoporous microcapsules with noble metal or noble metal oxide shells and their application in electrocatalysis. <i>Journal of Materials Chemistry</i> , 2004 , 14, 3548		45
53	Electrocatalytic oxidation of ethanol and ethylene glycol on cubic, octahedral and rhombic dodecahedral palladium nanocrystals. <i>Chemical Communications</i> , 2018 , 54, 2562-2565	5.8	44
52	Study of CO Oxidation on Polycrystalline Pt Electrodes in Acidic Solution by ATR-SEIRAS. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 16378-16388	3.8	42
51	Seeded growth fabrication of Cu-on-Si electrodes for in situ ATR-SEIRAS applications. <i>Electrochimica Acta</i> , 2007 , 52, 5950-5957	6.7	42
50	Mechanistic Analysis-Guided Pd-Based Catalysts for Efficient Hydrogen Production from Formic Acid Dehydrogenation. <i>ACS Catalysis</i> , 2020 , 10, 3921-3932	13.1	40
49	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 22397-22402	16.4	36
48	Carbon monoxide mediated chemical deposition of Pt or Pd quasi-monolayer on Au surfaces with superior electrocatalysis for ethanol oxidation in alkaline media. <i>Chemical Communications</i> , 2016 , 52, 374-7	5.8	34
47	Facile Fabrication of Pt, Pd and Pt-Bi Alloy Films on Si with Tunable Infrared Internal Reflection Absorption and Synergetic Electrocatalysis. <i>Journal of Physical Chemistry C</i> , 2009 , 113, 13841-13846	3.8	34
46	A versatile electroless approach to controlled modification of Sb on Pt surfaces towards efficient electrocatalysis of formic acid. <i>Electrochemistry Communications</i> , 2009 , 11, 831-833	5.1	33
45	Preparation of carbon supported Pd-Bi hollow nanospheres and their electrocatalytic activities for formic acid oxidation. <i>Electrochemistry Communications</i> , 2010 , 12, 901-904	5.1	33

44	In Situ Raman Spectroscopy of Single Particle Electrodes. <i>Electrochemical and Solid-State Letters</i> , 2001 , 4, A101		32
43	Manganese Dioxide Coated Graphene Nanoribbons Supported Palladium Nanoparticles as an Efficient Catalyst for Ethanol Electrooxidation in Alkaline Media. <i>Electrochimica Acta</i> , 2016 , 203, 91-98	6.7	31
42	Surface Raman spectroscopic investigation of pyridine adsorption at platinum electrodes—Effects of potential and electrolyte. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1998 , 94, 3127-3133		30
41	Practically modified attenuated total reflection surface-enhanced IR absorption spectroscopy for high-quality frequency-extended detection of surface species at electrodes. <i>Analytical Chemistry</i> , 2008 , 80, 166-71	7.8	30
40	In Situ Raman Spectroscopy of Zinc Electrodes in Alkaline Solutions. <i>Journal of the Electrochemical Society</i> , 2003 , 150, B217	3.9	28
39	In Situ, Real-Time Raman Microscopy of Embedded Single Particle Graphite Electrodes. <i>Journal of the Electrochemical Society</i> , 2002 , 149, A1100	3.9	27
38	Palladium modified gold nanoparticles as electrocatalysts for ethanol electrooxidation. <i>Journal of Power Sources</i> , 2016 , 321, 264-269	8.9	27
37	Probing the enhanced methanol electrooxidation mechanism on platinum-metal oxide catalyst. <i>Applied Catalysis B: Environmental</i> , 2021 , 280, 119393	21.8	27
36	Facile Aqueous Phase Synthesis of Carbon Supported B-doped Pt ₃ Ni Nanocatalyst for Efficient Oxygen Reduction Reaction. <i>Electrochimica Acta</i> , 2017 , 246, 242-250	6.7	25
35	Facile fabrication of silver nanoparticles on silicon for surface-enhanced infrared and Raman analysis. <i>Surface and Interface Analysis</i> , 2008 , 40, 81-84	1.5	25
34	A Multifunction Lithium–Carbon Battery System Using a Dual Electrolyte. <i>ACS Energy Letters</i> , 2017 , 2, 36-44	20.1	23
33	Surface-Enhanced Infrared Spectroscopic Study of a CO-Covered Pt Electrode in Room-Temperature Ionic Liquid. <i>Journal of Physical Chemistry Letters</i> , 2013 , 4, 1582-6	6.4	23
32	Changing the Product Selectivity for Electrocatalysis of CO ₂ Reduction Reaction on Plated Cu Electrodes. <i>ChemCatChem</i> , 2019 , 11, 6139-6146	5.2	22
31	In situ ATR–FTIR spectroscopy on Ni–B alloy electrodes. <i>Electrochimica Acta</i> , 2009 , 54, 1834-1841	6.7	22
30	Enhanced Electrocatalysis of Ethanol on Dealloyed Pd–Ni–P Film in Alkaline Media: an Infrared Spectroelectrochemical Investigation. <i>Electrochimica Acta</i> , 2015 , 162, 100-107	6.7	21
29	Interfacial Water at a CO-Predosed Platinum Electrode: A Surface Enhanced Infrared Study with Strong Hydrogen Evolution Reaction Control. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 5584-5592	3.8	21
28	A facile method to synthesize well-dispersed PtRuMoO _x and PtRuWO _x nanoparticles and their electrocatalytic activities for methanol oxidation. <i>Journal of Power Sources</i> , 2009 , 192, 285-290	8.9	21
27	Spectrometric Study of Electrochemical CO ₂ Reduction on Pd and Pd–B Electrodes. <i>ACS Catalysis</i> , 2021 , 11, 840-848	13.1	21

26	HD kinetic isotope effects of alcohol electrooxidation on Au, Pd and Pt electrodes in alkaline solutions. <i>Electrochemistry Communications</i> , 2013 , 37, 49-52	5.1	20
25	In Situ Raman Spectroscopy of Single Particle Microelectrodes. <i>Electrochemical and Solid-State Letters</i> , 2003 , 6, E35		20
24	Electrochemical Characterization of Nitrogen-Incorporated Tetrahedral Carbon Films Grown by a Filtered Cathodic Vacuum Arc. <i>Electrochemical and Solid-State Letters</i> , 2001 , 4, E42		20
23	Synthesis of well-dispersed PtRuSnOx by ultrasonic-assisted chemical reduction and its property for methanol electrooxidation. <i>Electrochimica Acta</i> , 2009 , 54, 4436-4440	6.7	17
22	A comparative investigation of electrocatalysis at Pt monolayers on shape-controlled Au nanocrystals: facet effect versus strain effect. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 15845-15850	13	16
21	Exploring electrosorption at iron electrode with in situ surface-enhanced infrared absorption spectroscopy. <i>Analytical Chemistry</i> , 2010 , 82, 5117-24	7.8	15
20	In Situ Surface Enhanced Raman Scattering of Ruthenium Dioxide Films in Acid Electrolytes. <i>Electrochemical and Solid-State Letters</i> , 2001 , 4, E37		15
19	Application of surface-enhanced infrared absorption spectroscopy to investigate pyridine adsorption on platinum-group electrodes. <i>Applied Spectroscopy</i> , 2007 , 61, 1328-33	3.1	14
18	Selective Reduction of CO ₂ to CO on an Sb-Modified Cu Electrode: Spontaneous Fabrication and Physical Insight. <i>ACS Catalysis</i> , 2021 , 11, 6846-6856	13.1	14
17	In situ surface-enhanced IR absorption spectroscopy on CO adducts of iron protoporphyrin IX self-assembled on a Au electrode. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 14911-5	3.4	13
16	High Performance Ag Rich Pd-Ag Bimetallic Electrocatalyst for Ethylene Glycol Oxidation in Alkaline Media. <i>Journal of the Electrochemical Society</i> , 2018 , 165, J3259-J3265	3.9	13
15	An alternate aqueous phase synthesis of the Pt ₃ Co/C catalyst towards efficient oxygen reduction reaction. <i>Chinese Journal of Catalysis</i> , 2019 , 40, 1895-1903	11.3	12
14	Exploiting the Surface-Enhanced IR Absorption Effect in the Photothermally Induced Resonance AFM-IR Technique toward Nanoscale Chemical Analysis. <i>Analytical Chemistry</i> , 2019 , 91, 10541-10548	7.8	10
13	Resolving local reaction environment toward an optimized CO ₂ -to-CO conversion performance. <i>Energy and Environmental Science</i> ,	35.4	8
12	Revisiting the Acetaldehyde Oxidation Reaction on a Pt Electrode by High-Sensitivity and Wide-Frequency Infrared Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 8727-8734	6.4	8
11	Selective Alcohol on Dark Cathodes by Photoelectrochemical CO ₂ Valorization and Their In Situ Characterization. <i>ACS Energy Letters</i> , 2019 , 4, 1549-1555	20.1	7
10	Steering the Glycerol Electro-Reforming Selectivity via Cation-Intermediate Interactions.. <i>Angewandte Chemie - International Edition</i> , 2021 ,	16.4	5
9	Oxidation Kinetics of a Lead Electrode Covered with an Anodic Pb(II) Film in Sulfuric Acid Solution. <i>Journal of the Electrochemical Society</i> , 2003 , 150, B325	3.9	4

8	Local Coordination and Reactivity of a Pt Single-Atom Catalyst as Probed by Spectroelectrochemical and Computational Approaches. <i>CCS Chemistry</i> , 241-251	7.2	4
7	Boosting electrocatalytic oxidation of formic acid on SnO ₂ -decorated Pd nanosheets. <i>Journal of Catalysis</i> , 2021 , 399, 8-14	7.3	3
6	Alternative Aqueous Phase Synthesis of a PtRu/C Electrocatalyst for Direct Methanol Fuel Cells. <i>Catalysts</i> , 2021 , 11, 925	4	3
5	Aqueous Phase Approach to Au-Modified Pt ₁₀₀ /C toward Efficient and Durable Cathode Catalyst of PEMFCs. <i>Journal of Physical Chemistry C</i> ,	3.8	2
4	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. <i>Angewandte Chemie</i> , 2020 , 132, 22583-22588	3.6	2
3	Deactivated Pt Electrocatalysts for the Oxygen Reduction Reaction: The Regeneration Mechanism and a Regenerative Protocol. <i>ACS Catalysis</i> , 2021 , 11, 9293-9299	13.1	2
2	Electrocatalytic CO ₂ and HCOOH interconversion on Pd-based catalysts 2022 , 1, 100007		2
1	Deactivation and regeneration of a benchmark Pt/C catalyst toward oxygen reduction reaction in the presence of poisonous SO ₂ and NO. <i>Catalysis Science and Technology</i> ,	5.5	1